



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,667	01/29/2004	Harald Sikora	H01.2-11459	5408
490	7590	05/02/2005	EXAMINER	
VIDAS, ARRETT & STEINKRAUS, P.A. 6109 BLUE CIRCLE DRIVE SUITE 2000 MINNETONKA, MN 55343-9185			SONG, HOON K	
		ART UNIT		PAPER NUMBER
				2882

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

E

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/767,667	SIKORA, HARALD
	Examiner	Art Unit
	Hoon Song	2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-23 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 January 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "shield" as claimed in claim 1, "a collimator" or "means which disposed between the x-ray and ribbon cable" as claimed in claims 4 and 14-16 and "a separate edge detector" as claimed in dependent claim 23 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

Claims 9 and 14 are objected to because of the following informalities:

In claim 9, on line 2, "und" should read --and--.

In claim 14 at line 2, between "and" and "means", insert --,--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-23 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. Note the format of the claims in the patent(s) cited.

In claim 1 at line 1, "the thickness" and "the insulation" lacks proper antecedent basis; at line 2, "the region of the metallic conductor paths" lacks proper antecedent basis; on line 5, "the x-ray luminescence radiation" lacks proper antecedent basis; on line 5, "the respective conductor path" lacks proper antecedent basis; on line 6, "the x-ray radiation" and "the respective conductor path" lack proper antecedent basis; on line 6, it is unclear how to measure an x-ray radiation with a detector while shielding the

detector from the x-ray radiation. For the purpose of examination, the phrase is read as "the detector being shielded against the x-ray beam".

In claim 2 at line 1, "the extension of the area of impingement" lacks proper antecedent basis; at line 2, "the latter" is unclear; at line 3 "the width" is lacks proper antecedent basis; at line 3-4, "the conductor path" and "the insulation" lack proper antecedent basis.

In claim 12 at line 1, "the insulation" lacks proper antecedent basis; at line 2, "the region" and "the metallic conductor path" lack proper antecedent basis at line 3, "the x-ray beam" lacks proper antecedent basis.

In claim 17, at line 4, "the first support" lacks proper antecedent basis.

In claim 19, at line 4, "it" is unclear.

**There exists numerous 35 USC 112 issues throughout the claims. Revision and/or correction for all the claims are required.**

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roller et al. (US 3796874).

Regarding claim 12, Roller teaches a device for the determination of the thickness of the insulation (20) of a cable (10) in the region of the metallic conductor paths (24), characterized in that

an x-ray source (12) is provided, the x-ray beam of which is directed to one side of the cable (10),

a detector (18) sensitive for x-ray luminescence being disposed on the opposing side of the cable (10), said detector (18) being connected with an evaluation equipment for the evaluation of the intensity of the luminescence radiation (column 4 line 64).

However Roller fails to teach that the cable is a flat ribbon cable.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Roller to measure a thickness of a insulation of a flat ribbon cable, since the device would accurately measure a thickness of an any insulation coating of an cable non-destructively so that applicability of the device would be improved. Furthermore a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Regarding claim 14, Roller teaches that between the x-ray source (12) and the cable (10) means (44) are provided for the generation of an x-ray beam (12) of small extension (46) in the direction transverse to the cable (10).

Regarding claim 15, Roller teaches the means are formed by a collimator (46).

Claims 12 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 4129778)

Regarding claim 12, Inoue teaches a device for a determination of a thickness of a paint coating in a region of the metallic conductor (2) paths, characterized in that an x-ray source (11) is provided, the x-ray beam of which is directed to one side of the coating (9),

a detector (15) sensitive for x-ray luminescence being disposed on the same side of the coating (9), said detector (15) being connected with an evaluation equipment (24) for the evaluation of the intensity of the luminescence radiation (figure 2).

However, Inoue fails to teach that the coating is a insulation of a flat ribbon cable.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the thickness measuring device of Inoue to measure a thickness of a conducting material of a flat ribbon cable, since the method would accurately measure a thickness of an any coating material while it is continuously moved by a conveyor belt (column 1 line 13-14) so that applicability would be improved. Furthermore, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Regarding claim 23, Inoue fails to teach a separate edge detector.

An edge detector used in conveyor system is known.

It would have been obvious to one of ordinary skill in the art at the time of the invention to adapt the conveyor system of Inoue with a known edge detector, since the edge detector would accurately control of the flow of the measuring object.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 4129778) in view of Barnett (US 3210545).

Regarding claim 1, Inoue teaches a method for the determination of a thickness of an insulation (a paint coating) of an object in a region of metallic (2) conductor paths, characterized in that one side of the object is irradiated by means of an x-ray beam (11), and a detector (15) on the same side of the object measures an intensity of x-ray luminescence radiation emitted, the detector being shielded against the x-ray beam.

However, Inoue fails to teach that the object is a flat ribbon cable nor the detector is shielded against the x-ray beam.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of measuring thickness of a conducting material of Inoue to measure a thickness of a conducting material of a flat ribbon cable, since the method would accurately measure a thickness of an any coating material while it is continuously moved by a conveyor belt so that applicability would be improved (column 1 line 13-14).

Furthermore, It would have been obvious to one of ordinary skill in the art at the time of the invention to adapt the measuring method of Inoue with the method of adapting a detector shield as taught by Barnett, since the detector shield of Barnett would prevent a direct radiation from the x-ray source for better measurement results (column 4 line 64).

Regarding claim 5, Inoue teaches the size of the sensitive area of the detector is a severalfold of the area of impingement of the x-ray beam on the flat ribbon cable (figure 2).

Claims 4, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue as applied to claims 1 or 12 above, and further in view of Ong (US 5195117).

Regarding claims 4 and 15, Inoue as modified by Barnett fails to teach the x-ray beam is limited in extension by means of a collimator.

Ong teaches an x-ray thickness measurement method having a collimator.

It would have been obvious to one of ordinary skill in the art at the time of the invention to adapt the measuring method of Inoue with the collimator as taught by Ong, since the collimator would accurately locate the irradiating x-ray at desired region for better measurement.

Regarding claim 19, Inoue as modified by Ong teaches the collimator for bringing into focus are formed such that the extension of the x-ray beam in the longitudinal direction of the object is a severalfold larger than transversely to it (figure 2).

#### ***Allowable Subject Matter***

Claims 2-3, 6-11, 13, 16-18 and 20-22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2-3, the prior art fails to teach the extension of the area

of impingement of the x-ray beam on the flat ribbon cable transversely to the latter is small in relation to the width of the conductor path and the insulation between the conductor paths, and the x-ray beam is moved over the flat ribbon cable transversely to the longitudinal direction the flat ribbon cable as claimed in dependent claim 2.

Regarding claims 6-11, the prior art fails to teach the intensity of the x-ray radiation is measured on the opposite side of the flat ribbon cable with the aid of an x-ray detector.

Regarding claim 13, the prior art fails to teach the detector sensitive for x-ray luminescence is disposed on the same side of the flat ribbon cable as is the x-ray source, and that a metallic plate or sheet is disposed on the opposing side of the flat ribbon cable as claimed in dependent claim 13.

Regarding claim 16, the prior art fails to teach the x-ray beam irradiates a larger area of the flat ribbon cable and that means are disposed between the flat ribbon cable and the detector through which the reception area of the detector, seen in the direction transverse to the flat ribbon cable, views only a small region of the flat ribbon cable at a time as claimed in dependent claim 16.

Regarding claim 17, the prior art fails to teach a conveying equipment moves the flat ribbon cable forward in a first direction and that a support for the x-ray source is moved transversely to the first direction in a second direction, and that a support for the detector is moved synchronously with the first support as claimed in dependent claim

Regarding claim 18, the prior art fails to teach the x-ray source and

Art Unit: 2882

the detector are attached to a common support, the x-ray beam and the detector being formed such that the sensitive area of the detector receives only such x-ray luminescence radiation which, seen in the direction transverse to the flat ribbon cable, originates from very narrow area portions of the flat ribbon cable at a time as claimed in dependent claim 18.

Regarding claims 20-22, the prior art fails to teach an x-ray detector is disposed on the side of the flat ribbon cable opposing the x-ray source, said detector being connected with an evaluation equipment for the evaluation of the intensity of the x-ray radiation as claimed in dependent claim 20.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon Song whose telephone number is (571) 272-2494. The examiner can normally be reached on 8:30 AM - 5 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272 - 2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2882

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HKS

4/27/01

HKS



DAVID V. BRUCE  
PRIMARY EXAMINER